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## PATENT ABSTRACTS OF JAPAN

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(71)Applicant : KYOCERA CORP

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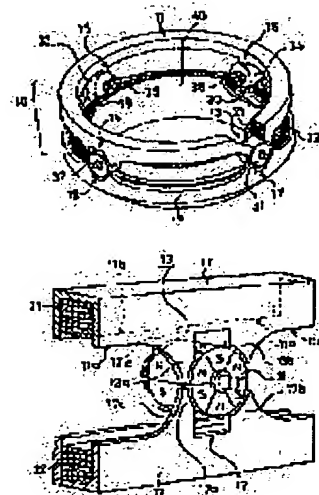
(72)Inventor : YAMAMOTO MASARU

## (54) ROTARY DRIVER FOR TUBULAR BODY

## (57)Abstract:

PURPOSE: To obtain a rotary driver effective for rotary driving of a tubular body by constituting the rotary driver of a stator in which a pair of poles mounted on ring type first and second yokes provided with coils are disposed oppositely and a permanent magnet rotor interposed between the poles.

CONSTITUTION: Upon application of a pulse voltage on a first coil 21, flux is induced in a second yoke 11 to excite a pair of poles 13 and a rotor 31 rotates according to first and second outer peripheral poles 13a, 13b and an inner peripheral pole 13c. Upon subsequent application of a pulse voltage on a second coil 22, flux is induced in a second yoke 12 and a pair of poles 17 are excited. Consequently, the rotor 31 rotates according to first and second outer peripheral poles 17a, 17b and an inner peripheral pole 17c. When power is fed alternately to the first and second coils 21, 22, the rotor 31 sustains rotation. When other rotors 32, 33, 34 rotate similarly, the rotors are interlocked with a pinion 35 and a rotary cylinder 40 is rotary driven.



## LEGAL STATUS

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